ENGINEERING NEWS-RECORD

Assembling steel lining sections for the penstock tunnel at Parker Dam powerhouse.

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The Week In Engineering and Construction

ENGINEERING NEWS-RECORD • APRIL 17, 1941

Army explains acquisition of construction equipment

Machines taken over from contractors will be used for maintenance or as hedge against shortages, and not for a huge force-account program

More or less as a byproduct of its fee-contract construction program, the Army's Quartermaster Corps is acquiring substantial quantities of construction equipment. Eqtipment used on these cost-plus jobs, whether or not owned by the contractor, is paid for by the Army under a rental schedule. The contracts provide that when the rental payments equal the value of the machine, title passes to the government. Moreover, the government may capture the machine at any time by paying the difference between its value and the equity already acquired through rental payments.

Where a 100 percent equity has been acquired, the Army feels that it is essential that it take title in order to avoid paying for the same equipment twice over. In many cases, however, it has taken title before a full equity has been built up, and among many contractors, this has raised the fear that a large force-account or WPA program of construction is contemplated on forthcoming work.

Quartermaster officials deny that any such implication can be drawn from current re-capture operations. They point out that under the rules set up by the construction division, equipment is not captured until the government has a 60 percent equity and unless there is a definite, immediate need in sight for the machinery.

Commonest case of re-capture arises when, at the end of a construction job on a cantonment, some of the equipment is needed for subsequent maintenance. The large cantonments, just as does a city, need substantial amounts of equipment for municipal housekeeping.

Another common situation arises when a job is finished and the Army wants to shift the equipment to another nearby job being handled by the same or a different contractor. Usually it prefers to transfer machines in which it has already built up an equity rather than to start paying for another outfit.

As an incidental benefit, the construction division feels that its program offers some assurance that, even if the equipment market should become tight, it will be able easily to equip its future jobs. This would apply to either force-account or contract operations.

More millions slated for garrisons and war plants

Plans for the next cantonment program, expected to house 800,000 to a 1,000,000 men at a cost of a little under a billion dollars, have now gone as far as tentative selection of 34 cantonment sites. Twelve of these would be handled as extensions to existing camps, while the remaining 22 would be at new locations—nearly all west of the Mississippi.

An additional $51,000,000 for further construction of Army garrisons at the Atlantic bases has been asked of Congress by the President. No indication is given of whether this includes money for work on Greenland and, under the new policy of rigid secrecy on ocean base construction, it may never be known. However, about $80,000,000 of the cost of the Army work immediately

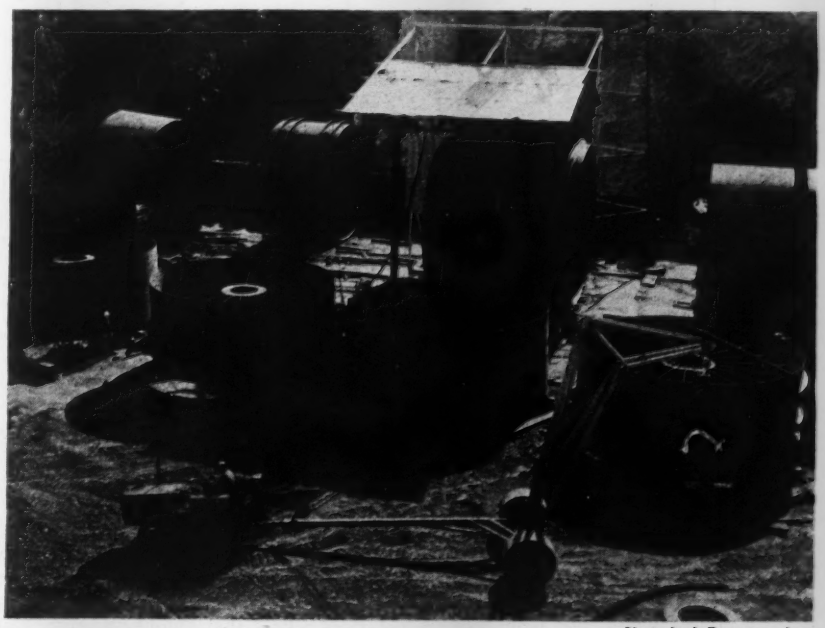

Photo by LeTourneau, Inc.

Penstock tunnel lining rushed at Parker Dam

Sections of steel liners for the penstock tunnels at Parker Dam on the Colorado River are being rushed into place for the three 30,000-kw. power units. This power will be delivered, as soon as available, over a 140-mile transmission line to supply irrigation pumping requirements near Phoenix, Ariz. At present a temporary power supply from the plant at Boulder Dam is fed over this line until the plant at Parker Dam is completed. The power development at Parker Dam is a Bureau of Reclamation job.

planned at bases other than Greenland is still unappropriated. The President's request also includes $76,922,000 for Quartermaster construction at military posts.

The munitions plant program, for which some $1,300,000,000 is now available, is expected to call for construction of about 100 new plants. However definite allocations of funds are somewhat slowed by the necessity of maintaining close liaison with the British.

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Agreement reached for Florida bridge project

Culminating many months of intensive negotiations, final agreement has been reached between Pinellas, Hillsborough and Manatee counties, Fla., for the purchase of the Gandy Bridge and Davis causeway on Tampa Bay.

The agreement proposes that $14,000,000 in bonds be issued by the three counties, and the agreement includes two separate programs. Under one program, Pinellas and Hillsborough counties will issue $6,000,000 worth of bonds to acquire the Davis causeway and the Gandy Bridge, and to rebuild the 13,900-ft. Gandy trestle. New construction under this program is estimated at a cost of $1,800,000. Under the second program, Pinellas and Manatee counties will issue $8,000,000 in bonds to acquire the Bee Line Ferry south from St. Petersburg and to build 10½ miles of causeway, bridging and a 3,300-ft. tunnel. The cost involved for new construction under this program is estimated at $7,000,000.

Wilberding & Palmer, Inc., Mobile, Ala., who were engineering and financial consultants on the Mobile River Tunnel, will have charge of the project. All financing details have been arranged, and the War Department's permission for construction has been obtained. It is understood that first construction bids will be asked in about 60 days.

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U. S. Court to re-hear Grand Coulee claims case

The United States Court of Claims will begin holding hearings May 12 at Grand Coulee Dam to take evidence in the three-year-old case of the Mason-Walsh-Atkinson-Kier Company, contractors for the Grand Coulee foundation dam, against the United States for about $5,000,000 in claims.

The contractors claim they performed work in excess of contract specifications and that the reclamation bureau's inspection was too rigid. Thirty-one separate causes of action are listed by the contractors and are expected to require from 30 to 60 days in the presentation of evidence.

The company was forced to re-institute proceedings after the court of claims sustained a government demurrer January 8, 1940, and dismissed the petition of the company to obtain judgment against the government for $5,267,273.

Among the causes of action stated by the company is that the bedrock was found more irregular than described in specifications; that mining, washing and screening of aggregates cost more than contemplated because of excessive inspection; that a systematic removal of several earth slides was not permitted and that it was necessary to use light loads of powder to blast bedrock at additional expense to the contractors.

Photo by Regal Picture Service

Driscoll Hotel at Corpus Christi nears completion

Lasest addition to the skyline of Corpus Christi, Tex., is the $2,200,000 20-story Driscoll hotel and office building, which fronts 180 ft. on Upper North Broadway and 150 ft. on Antelope St. The building has a floor area of 242,000 sq.ft., and there are 308 hotel rooms and 150 offices. Hotel facilities include a lobby, 120x40 ft., a mezzanine floor, tap room, several private dining rooms, a patio grill, and an auditorium, 100x40 ft.

The building is L-shaped in plan, and of steel frame construction. It is erected on a foundation of concrete spread footings. The exterior walls are brick with Texas limestone and Minnesota black granite used as trim. All the window frames and window trim are aluminum.

Great care has been exercised to make the building waterproof against the driving rainstorms so common to Corpus Christi. All outside brick walls are treated with a special waterproofing compound and furred with 2 in. tile.

Wyatt C. Hedrick is architect, W. E. Hannaford, structural engineer, and McKenzie Construction Co., general contractor.

Advisory committee on post-war roads appointed

President Roosevelt April 14 appointed a seven-man advisory committee to assist John M. Carmody, federal works administrator, in formulating a post-war program for a national system of intra-regional highways.

Those named on the committee were: Rexford Guy Tugwell, chairman of the New York City Planning Commission; Thomas H. MacDonald, commissioner, PRA; G. Donald Kennedy, Michigan highway commissioner; Bibb Graves, former governor of Alabama; C. H. Purcell, state highway engineer of California; Frederic A. Delano, chairman, NRPB; and Harlan Bartholomew, city planner of St. Louis, Mo.

Engineering News-Record is published every Thursday by McGraw-Hill Publishing Company, Inc., at 99-129 North Broadway, Albany, N. Y. Editorial and business offices 330 West 42nd St., New York, N. Y. Subscription, domestic, $5 for one year, $8 for two years, $10 for three years. Canada, $5.50 for one year, $9.00 for two years, $11.00 for three years. Mexico, Central and South American countries $5 for one year, $8 for two years, $10 for three years. Great Britain and British Possessions 54 shillings for one year, 108 shillings for three years. All other countries $9 for one year, $18 for three years. Entered as second class matter October 29, 1936, at the Post Office at Albany, N. Y., under the act of March 3, 1879. Printed in U. S. A. Cable address "McGrawhill New York." Member A.B.P. Member A.B.C. Copyright 1941 by McGraw-Hill Publishing Co., Inc. James H. McGraw, Founder and Honorary Chairman; James H. McGraw, Jr., President; Howard Ehrlich, Executive Vice-President; Mason Britton, Vice-Chairman; B. R. Putnam, Treasurer; D. C. McGraw, Secretary; J. E. Blackburn, Jr., Circulation Manager.

Court orders complete payment to Tacoma Bridge contractors

Washington Toll Bridge Authority must pay balance due to three firms, which totals $619,915 plus interest

The Washington state supreme court on April 12 ordered the state toll bridge authority to pay $619,915, with interest, to three contractors who built the collapsed Tacoma Narrows bridge. It granted a writ of mandamus to the Pacific Bridge Co., San Francisco; General Construction Co., Seattle, and Columbia Construction Co., Portland, Ore., directing the authority to pay the remaining balance due on the $6,000,000 bridge.

The authority had sought to withhold payment on grounds it had only $241,000 on hand. The supreme court, however, ruled a warrant should be issued for the full amount due, regardless of the actual cash available to pay it. It also ruled the contracting companies are entitled to interest on the amount due after November 29, 1940.

On October 29, 1940, the authority approved the highway director's final estimate of the amount due on the bridge. On November 7, the bridge collapsed. Two weeks later, the insurance companies which carried policies on the bridge advised the authority to refrain from taking any action which might be construed as an acceptance of the work under the contract or as a release of the contractors of their performance bond and sureties.

James A. Davis, acting state highway director, said the Public Works Administration owed the toll bridge authority an undetermined amount on its original grant on the bridge which had not been finally turned over to the state. This sum may be sufficient, if it is secured, to cover the differnce between the supreme court judgment and the money on hand.

A hearing on a show cause action of the toll bridge authority, intended to place responsibility for determining loss sustained by the state in the bridge collapse upon the court, is scheduled for April 21 at Tacoma in Pierce County superior court. Insurance companies may attempt to have the case transferred to federal court, however.

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Over $29,000,000 for river and harbor work

The President has signed a deficiency bill providing $29,676,000 for river and harbor projects required for the national defense which were authorized in a special bill last fall. This money is additional to the funds in the regular War Department Civil Functions Appropriation, (*ENR*, April 3, p. 7). The bill also provides $10,510,000 for speeding up installation of the secret protective devices for the Panama Canal.

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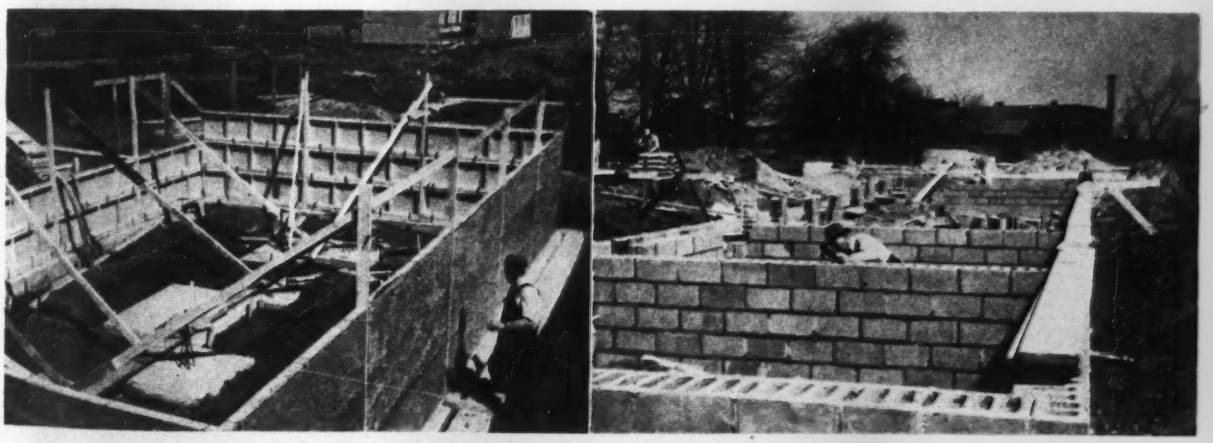
Ohio River pollution control up to Pennsylvania

Interstate control of Ohio River pollution is now up to the state of Pennsylvania, and the outcome depends on what action the state legislature, now in session, finally takes. A joint committee hearing of the House and Senate was held at Harrisburg, Pa., Mar. 26, to discuss ratification of the Ohio River pact, but no action was taken.

Though Indiana, Illinois, New York and Kentucky have ratified the compact unconditionally, a fifth ratification is necessary to make the compact operative. Since Ohio and W. Virginia have agreed to ratify if Pennsylvania does, the latter has become the key state in the situation.

It was suggested at the hearing that Pennsylvania's action will set a precedent in such matters; that if the compact does not go into effect, it will be an indication that interstate control cannot be accomplished by legislation—the only alternative being federal control.

Ohio, Indiana and Illinois were represented at the hearing, as were various Pennsylvania departments and commissions, including Public Health, Conservation, Fish and the State Sanitary Water Board.



Hartford Housing Authority starts 1,000 unit project

Shown above is start of foundation wall construction, on April 10, for a housing development to alleviate some of the shortage caused by influx of workers to Hartford, Conn., airplane and other defense industries. The Housing Authority of the City of Hartford has undertaken construction of 236 buildings which will contain 1,000 dwelling units ranging in size from 2½ to 7 rooms and is estimated to accommodate about 3,500 people. The buildings are of frame construction with from 2 to 8 units in a building. The 4½-room apartments predominate with 380 out of the 1,000 units, being of this size.

The site selected is in southwest Hartford between New Britain Ave. and Flatbush Ave. The design was made by "Associated Architects of Hartford for Defense Housing, Inc.," an organization composed of the following architectural firms of Hartford: Golden-Storrs & Co., Sherwood F. Jetter, Jr., Joseph Gelman, Carl J. Malmfeldt & Assoc., Soheide Browne & Wilkins, Inc., and Ebbets & Frid.

Contract for the construction was awarded to Cauldwell-Wingate Co. of New York about the middle of February at $3,597,000. Walter Marcus is project manager for the contractors.

Fairchild Aerial Surveys Photo

Construction was started on the 1,000-man hospital at Camp Dix, N. J., on Jan. 15. This aerial view shows the progress made in three weeks. The project includes 77 one-story frame structures, a reinforced concrete cold storage plant and a steel-frame power house.

Tents aid winter work on 79 Army buildings

Allowed 60 days to construct 79 buildings for the 1,000-man hospital unit at Fort Dix, N. J., during severe winter weather, the J. A. J. Construction Co., Brooklyn, N. Y., was able to avoid a $5,000 per day penalty through the use of ten 160x40-ft. circus tents for protecting foundation concrete. The $1,828,000 job called for construction of 77 frame one-story buildings of several different layouts with the largest a 150x25-ft. ward and the smallest a 85x25-ft. nurses' home. Construction of a 90x72-ft. one-story cold-storage building with reinforced-concrete floors, walls, and roof was also necessary, as was construction of a boiler house with steel frame and sheet-metal roof and walls. Additional construction included 4 mi. of vitrified clay sewers varying in size from 6 to 24 in., over 2 mi. of cast-iron water mains, mostly of 8-in. diameter, and 6,875 ft. of covered walk to join the buildings.

Used during foundation concreting only, the tents were heated by oil-burning salamanders. As a further aid in fighting the cold, high-early-strength cement was used and both water and aggregates were heated.

Although only fourteen days were allotted for the foundation work, the job was completed in that time by operating on a three-shift plan including Saturdays, Sundays and holidays. As many as 300 men were at work under a single tent at one time. Maximum number employed on the entire project was over 2,000.

Many of the footings and piers were constructed with ready-mixed concrete but the contractor was not dependent on deliveries of this concrete alone for he had 12 job mixers operating as well. Most difficult concreting work was construction of the cold-storage building, which had a maximum height of 40 ft. Placing of concrete continuously for 42 hours was necessary once this work was begun.

Building materials required included: 750,000 sq.ft. of building paper, 500,000 sq.ft. of 55-lb. roofing paper, about 1,000,000 sq.ft. of gypsum board, and over 2,000,000 board feet of lumber.

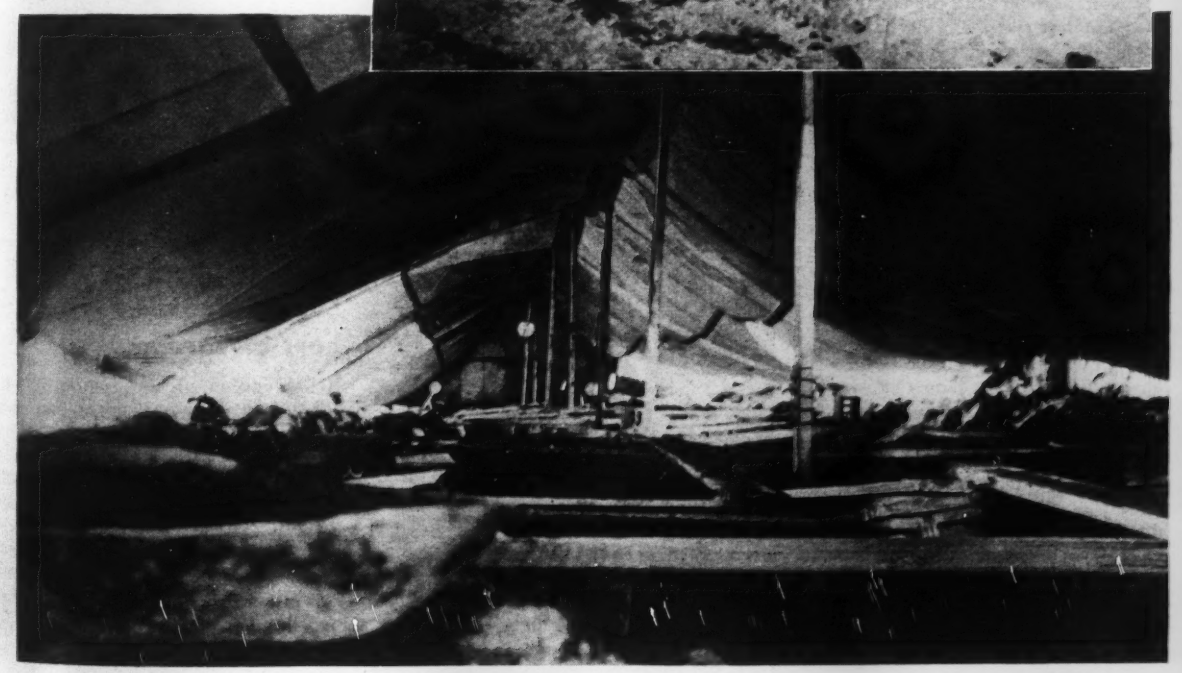
Construction was handicapped by extremely cold weather and by three severe snow storms. One storm was so severe that cars parked on the site were practically buried and all roads were blocked for a time.

To meet the fast schedule necessary for fulfillment of the contract, the contractor divided the work into five areas with a superintendent in charge of each. John A. F. Johnson, president of the contracting firm, personally supervised construction. He was assisted by Edwin Johnson, vice-president, who procured materials, and Robert V. Acampora, construction manager. Kelly, Syska, & Hennessy, New York, represented on the job by Charles P. Kreig, office engineer, was the architect-engineer. Maj. John P. Tighe at first was in charge for the War Department, but due to his illness Maj. Oliver T. W. Cromwell later took charge. C. Gilbert Countiss was in charge of planning, design, and construction for the War Department.

All ready for occupancy are the 77 frame buildings two months after construction of foundation was begun. These are typical ward buildings. Shown under construction in front of building at left is the covered walk to join all the units.

The foundation site for each individual building is enclosed by one continuous tent, as illustrated by the view at the left. View immediately below shows how erection of building was begun as soon as a tent was taken down to make available the foundation for another structure. Note how tents are used without sidewalls to reduce wind resistance and to make heating less difficult.

How the roof of each tent is supported by six to eight center posts is illustrated in the view at the bottom of the page. The tents are heated by oil-burning salmanders.



Delivering 1,500 tons of "fines" per hour at Shasta Dam

A full load of "fines" moves over the conveyor belt at the Shasta Dam stock pile. The 9-mi. conveyor that brings this aggregate from Redding (Columbia Construction Co.) to the concrete boot at Coram where Pacific Constructors, Inc., contractors on Shasta Dam, receive it, was designed for 1,100-tons per hour. Under operating conditions in recent months, it has been demonstrated that the belt can continuously deliver 1,500 tons per hour in any one of the several grades of material from sand to 6-in. cobbles.

Bill seeks construction of Cape May ship canal

A bill is now before Congress which, if passed, would authorize the construction of a canal from Cape May Harbor to Delaware Bay, by way of the New England Creek basin, in the southern part of New Jersey.

The bill was introduced by New Jersey's Senator Barbour, and the canal was provided for in a rivers and harbors bill passed by the last Congress, but vetoed by President Roosevelt on grounds that only purely defense work should be undertaken during the emergency.

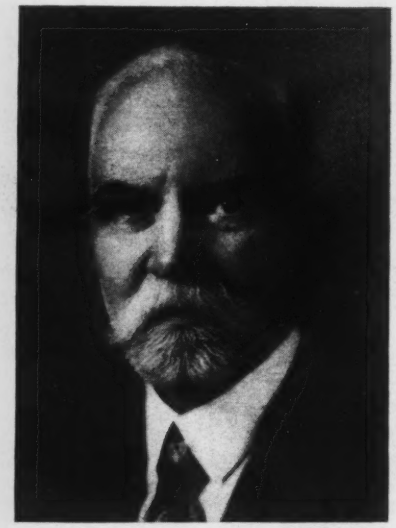
It is now claimed by sponsors of the canal project that the development at Cape Henlopen of a coast artillery battery and munitions magazine, and development of the naval air station at Cape May makes this canal absolutely necessary in the eastern coastal defense picture.

The canal would provide speedy access between the New Jersey and the Delaware stations; eliminate the dangerous open-sea voyage around Cape May Point to enter Delaware Bay, and would be a highly important channel for use by small, high-speed destroyers now being developed.

Senator Barbour has announced that the navy department and army engineers have both approved the project as essential to national defense. It is estimated that the work involved will amount to approximately $1,000,000.

Otis E. Hovey dies; movable bridge authority

Otis E. Hovey, retired consulting engineer of the American Bridge Co., treasurer and honorary member of the American Society of Civil Engineers and director of the Engineering Foundation, died at New York on April 15, at the age of 77. Mr. Hovey is best known for his long service with the American Bridge Co. as engineer of design (1907–1931) and as a lecturer at Yale and Princeton on bridge and structural design. He was the author of a two-volume work on movable bridges and a book on steel dams.



© Bachrach

Otis E. Hovey

Mr. Hovey graduated from Dartmouth in 1885, became a designer with the Edge Moor Iron Co. the following year, taught at Washington University from 1890 to 1896, was with George S. Morison in charge of his Chicago office for four years and then joined the Union Bridge Co. in 1900. Four years later he joined the staff of the American Bridge Co., which company he served continuously until his retirement in 1934.

Since retirement Mr. Hovey has done some consulting work but has devoted much of his time to the affairs of the American Society of Civil Engineers, having just completed 20 years as treasurer at the time of his death, and to the Engineering Foundation, of which he was elected director in 1937.

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Brooklyn navy yard to get 13 story housing project

Nathan Straus, USHA Administrator, has announced that immediate construction will be started on the 13-story defense housing project to be erected at North Elliott Place, between Park Avenue and North Portland Avenue, Brooklyn, N. Y., for workers at the U. S. navy yard. Bids will be called for on April 28.

The building will be a concrete skeleton type frame, with brick exterior wall, and steel casement windows.

There will be 207 family units in the building with suites of one, two or three bedrooms. The living rooms will contain 160 sq.ft. of space and kitchens 50 sq.ft. There will be community rooms for adults as well as play space for children.

The project will be erected under the direction of the New York City Housing Authority, from plans by William I. Hohauser, Carl A. Vollmer and Walter N. Wefferling, architects. Completion of the project is scheduled for October of this year.

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Last of Seattle's street cars discarded

Rehabilitation of the Seattle, Wash., municipal transportation system was completed April 13 when the last street car was replaced by a motor coach.

The rehabilitation, involving the substitution of buses and trackless trolleys for street cars and cable cars, required about 18 months and cost $5,700,000. Additional sums have been spent and will be spent for street improvements, necessitated by the taking out of car tracks and the needs of the new vehicles.

Move started to have airports constructed as WPA projects

CAA and Jesse Jones to make strong fight against measure, which must be acted on by Senate. Full program totals $122,500,000.

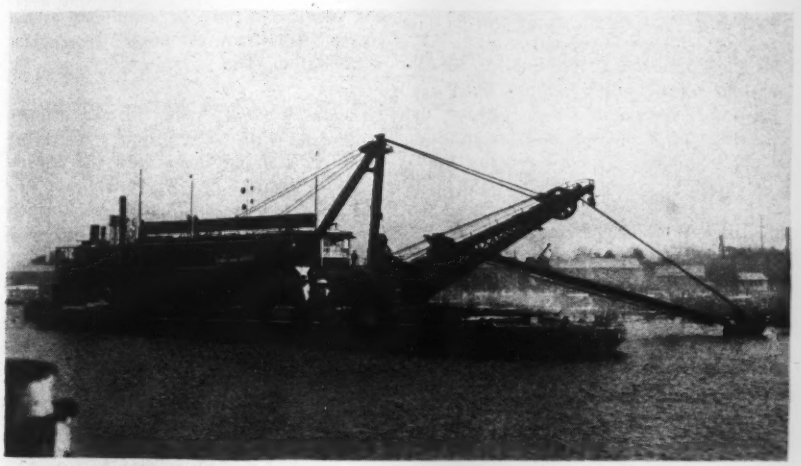
In providing funds for continuation of the Civil Aeronautic Authority's airport construction program Congress and the Administration have shifted the emphasis away from contract operations to WPA work. The CAA asked for enough money to carry out the remainder of its program—about $75,000,000—but this was cut down by the budget director and again by the House of Representatives to $28,500,000. Direction was given that the remainder of the work be done through WPA.

CAA started work this fiscal year on a program of improving, and in a few cases building, 250 civil airports which might in an emergency have military utility. The full program will cost $122,550,000. Congress provided $40,000,000 to start the work, and this is being supplemented during the current fiscal year by $9,000,000 of WPA funds.

Original intention was to do nearly all of the work by contract, with WPA restricted to fields at which it already had projects going. Under the new policy, WPA will do the work except "where relief labor is not available or where time of completion is of major importance."

The bill has still to be acted upon in the Senate, and CAA will make a strong fight for a return to the original basis—backed by Secretary of Commerce Jesse Jones, who swings a lot of weight in Congress.

To date 193 projects have been started at 188 sites, and about 45 of them will be finished by July. Of these, 86 or $19,000,000 of work are being handled by WPA. On the contract jobs, the Corps of Engineers is providing engineering and supervision on 91 projects costing $18,000,000, while CAA is doing the engineering on 16 at $4,264,000.



Dipper dredge excavates to 70 ft. on Norfolk job

Believed to be the world's largest dredge of its type and using a 90-ft. handle, Great Lakes Dredge "Crest" has completed the work of removing 1,500,000 cu.yd. of excavation for the drydock under construction at the Norfolk Navy Yard. It is now on its way to New York to be used for removing excavation for the Bayonne, N. J. drydock.

Extending over an area of 400x1,200 ft., the work just completed called for removal from an average elevation of mean low water to 70 ft. below that level. This was accomplished by using a 67-ft. handle for the first 50 ft.; a 77-ft. handle between 50 and 60 ft.; and the 90-ft. handle for the remainder.

The material removed consisted of clay and a very hard marl that required a powerful dredge such as the "Crest", which has a 167x48-ft. hull and a hull depth of 14 ft. It was built in 1926 at a cost of over a million dollars and is powered by 1,600-hp. diesel-electric motors. The cast steel 90-ft. handle was made especially for the Norfolk work.

For disposal of the material, 28 miles away near Lynnhaven Creek, seven 1,500-yd. scows of the type shown above in front of the dredge, two 1,000-hp. sea-going tugs and one attending tug were used. Because of the shallow dumping grounds, disposal with winds from the northeast was at times difficult.

Begun August 1st, about 7 months were required for completion by operating 24 hours a day six days a week and some weeks seven days. The total crew employed was slightly over a hundred men.

Drydock Associates, made up of the three firms of Merritt-Chapman & Scott Corp., Foley Brothers, and Spencer, White & Prentis, Inc., are the general contractors for the new drydock. A Bureau of Yards and Docks job.

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Connecticut has housing unit in health department

The Connecticut State Department of Health has given recognition to housing as a field of public health activity by creating a full-time housing division in the Bureau of Sanitary Engineering. Under the state merit system procedure a newly-created position of housing engineer has been filled by appointment of Eugene L. Lehr, previously a sanitary engineer on the department staff. Mr. Lehr will work under the direction of Warren J. Scott, bureau director.

Advisory service to local health officials on problems of housing inspection and enforcement will be a major activity of the new unit. Problems of water supply and sewage disposal in areas not served by public facilities will be a further concern of the housing division. At the present time local health officers are being urged to sponsor ordinances under which sewage disposal facilities shall be approved prior to construction of dwellings.

In connection with the Connecticut program, a consulting service has been established through the committee on the hygiene of housing of the American Public Health Association. The A.P.H.A.'s technical secretary Allan A. Twichell, states that so far as known, Connecticut is the first state to establish a separate housing unit in its health department.

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PBA lets contract for 65 prefabricated houses

Public Buildings Administration has awarded a contract for the erection of 65 more prefabricated demountable houses for the defense housing project at Indian Head, Md. The award was made to T. Calvin Owens of Bethesda, Md., for $194,350, and contract calls for completion within 115 days. The contract with Mr. Owens contains an option to provide additional units at $2,990 each.

These 65 units are in addition to 420 already contracted for by PBA. Contracts for 165 more will be made, which will round out the 650 planned for occupancy by industrial workers employed at the nearby Naval powder plant. (See *ENR*, Mar. 6, 1941, Vol. p. 371).

Funds for the units at Indian Head, which were made available under the Lanham Defense Housing Act, were allotted to the Public Buildings Administration by Federal Works Administrator John M. Carmody.

MEN AND JOBS

COL. WILLIAM N. CAREY, Corps of Engineers, U. S. Army Reserve, has received orders assigning him to extended active duty at Jacksonville, Fla., from which point he will assist the Corps of Engineers in the construction of eight army airports and air bases. Col. Carey originated the design of the St. Paul airport and supervised original construction. Formerly city engineer for St. Paul, PWA state director for Minnesota, and project engineer for PWA on the Twin City sewerage project, Col. Carey has for the past two years conducted a private consulting office in St. Paul.

WILLIAM SCHLECHT has been appointed superintendent of the city waterworks at Velva, N. D., succeeding the late JENS SORENSON.

DAVE THURSTON, well-known contractor operating in the Middle West and West Coast areas, has been appointed operations officer for the Sixth Zone constructing quartermaster's office in Chicago, thus completing the list of civilians announced in *ENR*, Feb. 13, 1941, p. 77, as aids to the zone constructing quartermasters. GEO. HOUSTON has been appointed assistant to Mr. Thurston.

BURTON C. AYRES, of Huron, S. D., county highway superintendent for Beadle County for the past five years, has resigned to accept a position with the Standard Oil Co.

JOHN S. MANION, who has been with the Nebraska State Highway Department for many years, has been granted a leave of absence to serve as temporary city engineer at Kearney, Neb.

CARLTON H. VERNON, Corning, Iowa, was recently appointed planning engineer for Adams County, succeeding FRED D. MCCLELLAND, who had held that position for the past 13 years.

HARRY S. MAHOOD, formerly chief resident engineer-inspector for PWA at Kingsley Dam, Neb., was promoted to acting Nebraska project engineer with offices at Kearney, Neb. He takes the place of DOUGLAS C. WRIGHT, who has been transferred to Washington, D. C., as engineer of the PWA power division.

D. L. CHENEY, Helena, Mont., assistant state highway engineer, has resigned to accept a position with S. Birch & Sons, highway contractors of Great Falls, Mont.

MAJOR J. A. MONTGOMERY, who has been the district army engineer at Tulsa, Okla., has been transferred to Oklahoma City in connection with the new army bombardment squadron base to be built there.

H. F. MCCOLLEY, Williston, N. D., former secretary of the North Dakota Water Conservation Commission, has been appointed to a position in charge of the planning and investigation section of the Bureau of Reclamation at Denver, Colo.

CLINTON W. COTE has resigned as assistant city engineer at Walla Walla, Wash., a position he had held five years.

VERNE L. PEUGH of Minneapolis, Minn., has been named as general manager in charge of construction at the bag-loading plant near Charlestown, Ind., to succeed WILLIAM H. GARDINER, deceased. Estimated cost of the project is $18,000,000.

BEN T. COLLIER of Clarksdale, Miss., Coahoma county engineer, has been appointed by Governor Paul Johnson as a member of state board of examiners for professional engineers for the state at large.

COL. JOHN W. WHEELER, formerly executive assistant, Chicago Burlington & Quincy R. R., is serving as regimental commander of the 113th Engineers Combat Regiment, 38th Division, Camp Shelby, Miss.

WILLIAM KOPFLER, senior in engineering at Southwest Louisiana Institute, Lafayette, La., has been named research graduate assistant in civil engineering at Iowa State College engineering station.

EARL LONGLAND, draftsman with the South Dakota Statewide Highway Planning Survey for the past four years, has resigned to accept a similar position with the North Dakota Highway Planning Survey at Bismarck, N. D.

CLARENCE MAKENS, civil engineer with the South Dakota State Highway Commission for the past four years, has been appointed principal engineer draftsman with the U. S. Navy, and will be assigned to duty at Mare Island, Calif.

PROF. QUINCY C. AYRES of Iowa State college has been granted a leave of absence to become a lieutenant commander in the Civil Engineer Corps, Bureau of Yards and Docks, Washington, D. C. He has been a member since 1920 of the agricultural engineering department of the college, for which he has also been patent manager.

ALLEN WAGNER, executive secretary of the Minneapolis-St. Paul Sanitary District, recently resigned to accept a position with the Minnesota Mining & Manufacturing Co., of St. Paul.

AMIEL REICHSTEIN, city engineer at Fairfield, Iowa, for 13 years, has resigned to become project engineer for the Work Projects Administration at Ottumwa, Iowa.

CLAUDE FRAZIER, formerly with the county engineer's office of Hardin county, Iowa, is now working with the Stone and Webster Corp. on construction of a munitions plant at Joliet, Ill.

A. P. HUNDLEY, JR., assistant county engineer of Dallas County, resigned April 1 to join the firm of Burleson and Garrel, engineers in charge of construction of street improvements and utilities for Avion Village, a new housing project being erected for employes of the North American Aviation, Inc., plant near Dallas, Tex.

GEORGE W. SCHUSLER, former utilities engineer for the U.S. Shipping Board and later division engineer with the department of health, city of Pittsburgh, Pa., has accepted the position of construction superintendent for the Westinghouse Electric & Mfg. Co. Mr. Schusler has just completed a new turbine plant at the South Philadelphia Works and is now constructing the fluorescent lamp plant at Fairmont, W. Va.

SECOND LIEUT. BURR E. ADAMS, Arlington, S. D., and 2ND LIEUT. HARROLD H. HAYES, Onida, S. D., have been ordered to a year's active duty at Fort Leonard Wood, Mo.

G. F. MCKINNEY has been promoted to the position of assistant division engineer in the Ohio State Highway Department at Chillicothe, succeeding WILLIAM ROEPPEL, who has resigned to join the staff of the county engineer's office in Ross County.

RALPH M. PICKARD, Durham, N. C., has been appointed district manager and engineer for WPA at Smithfield, N. C.

LIEUT.-COL. ALBERTIS MONTGOMERY, formerly constructing quartermaster at Camp Davis, Holly Ridge, N. C., is now stationed at Sylacauga, Ala., as chief engineer and assistant to the constructing quartermaster in charge of the Army's $47,000,000 ordnance plant.

MEN at WORK

MAJ. C. R. HAZELTINE recently appointed Constructing Quartermaster in the San Antonio, Tex., area has taken over his new work with confidence and enthusiasm. He has just completed assignments at Kelly Field, Duncan Field and Camp Stanley.

This is not a preview, though well it might be, of a fishing expedition this summer, but the rock creek does make a fitting background for E. JONES (left), inspector, and R. G. MERIDITH, resident engineer for Washington's Board of Commissioners and M. GOLLUB, Stiers Constr. Co., of St. Louis, who together tackled the job of building the Rock Creek intercepting sewer in the Nation's Capital.

MORGAN BUTLER, president of Butler Bin Co., Waukesha, Wis., is pleased with a recent ingenious job. He welded a couple of tank cars together, stood them on end and piled aggregate against this hollow tower. Ports in the sides of the tower feed the various aggregates as desired to a hopper at the bottom from which a belt conveyor conducted material to the top of the batching plant.

RENE RAVENEL, right-of-way engineer for Charleston County, S. C., Sanitary and Drainage Commission since 1935, points with pride to a map showing the many roads for which he secured rights-of-way at no cost to the county.

I. V. A. Huie named head of New York City WPA

Irving V. A. Huie, New York City's Commissioner of Public Works, has been appointed WPA administrator for that city.

He will fill the vacancy caused by the recent transfer of Brig. Gen. Brehon B. Somervell from the WPA administrative post to become chief of the Construction Division, Office of the Quartermaster General, in Washington. He will continue to carry on his duties with the New York Department of Public Works, and will receive no compensation from the federal government.

Mr. Huie has a long record of service with the city of New York; having been acting deputy commissioner, chief engineer, and has been commissioner of public works since 1938.

During the World War he served overseas as a major with the 1st U. S. Engineers of the 71st Division.

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Navy to commission engineering graduates

A survey by Rear Admiral Harry E. Yarnell, U.S.N., has been completed among engineering schools for the purpose of enlisting graduates in the Naval Reserve Corps.

Some 7,000 students from various colleges and universities heard Admiral Yarnell outline the Navy's plan. Indications are that between 2,000 and 3,000 will be assigned to active duty in the various technical bureaus.

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Texas revises truck limits on state highways

Texas has followed the lead of other states in widely separated sections of the country, and revised its laws affecting the load limit for trucks on state highways.

Last month the Texas legislature passed a bill raising the truck limit from 7,000 lb. pay load to 38,000 lb. gross limit. The Senate approved the measure by a vote of 24 to 5 and the House, 118 to 5.

Three other states—Tennessee, North Dakota and Indiana—have passed similar legislation affecting weight limits for trucks on highways. Tennessee approved a measure raising the maximum gross weight for trucks from 24,000 lb. to 30,000 lb.; North Dakota increased the gross weight limit on truck combinations from 35,000 lb. to 40,000 lb., and Indiana increased the gross allowable weight per axle from 16,000 lb. to 18,000 lb. and removed the 40,000 lb. gross weight limit.

JOBS OF THE WEEK

POWER PLANT, Green Bay, Wis.
C. R. Meyer & Sons Co., Oshkosh, Wis., has been awarded contract for construction of substructure for power plant; and Milwaukee Bridge Co., Milwaukee, received award for structural steel. Wisconsin Public Service Co., Green Bay, is owner of project which will cost $2,600,000 when completed. Public Utility Engineering & Service Corp., Chicago, is engineer.

AIRPLANE ENGINE PLANT, East Hartford, Conn.
Turner Construction Co., Boston, Mass., has been awarded contract for the construction of an additional plant to manufacture airplane engines, by Pratt & Whitney Aircraft, Div., United Aircraft Corp., East Hartford, Conn. Construction will cost $3,522,000. Total cost $13,125,000. Albert Kahn & Associates, Detroit, Mich., is engineer.

DREDGING, Jacksonville, Fla.
Yards & Docks, Navy Department, Washington, D. C., dredging naval carrier base and turning basin, in Robault Bay near Mayport, by own forces. Estimated cost $1,800,000.

TURBO GENERATOR PLANT, Buffalo, N. Y.
Stone & Webster Engineering Corp., New York, N. Y., has been awarded contract for the construction of a turbo generator plant addition at Charles R. Huntley steam generating station, by Buffalo Niagara Electric Corp., Buffalo, N. Y. Total estimated cost $6,500,000.

GRADE CROSSING ELIMINATION, New York
J. Leopold & Co., New York, N. Y., was lowest when bids were opened April 10, for grade crossing elimination at intersection of connecting highway and Triborough Plaza and at intersection of Boody St. and Grand Central Blvd., Queens Co., at $1,219,794. Bids were opened by Park Department, Central Park, New York.

AIRBASE, Victoria, Tex.
American-Friedman-Bitulithic Associates, Houston, Tex., has been awarded contract by the U. S. Engineers, Washington, for an aerial gunnery training base, including 155 buildings, shops, barracks, warehouses, hangars and field development, on 640 acres, 5 mi. east of Victoria. Estimated cost $1,600,000; also awarded three rein.-con. 150x4,500 ft. runways at $880,000.

IMPROVING LOS ANGELES RIVER, Los Angeles, Calif.
Griffith Co., Los Angeles, Calif., was lowest bidder when bids were opened April 7 for improving Los Angeles River, from Arroyo Seco to North B'way, at $694,766. U. S. Engineers, Los Angeles, took bids.

DEFENSE HOUSING, Philadelphia, Pa.
J. A. J. Construction Co., Inc., Brooklyn, N. Y., has been awarded contract for the construction of 530 dwelling units for defense housing project by Philadelphia Housing Authority, Philadelphia, Pa. Estimated cost is $1,845,000.

HOUSING, Cincinnati, O.
Maurice L. Bein, Inc., Chicago, Ill., was lowest bidder on proposal A, for Lincoln Court Housing Project 0-4-4 at $3,347,000, with $115,000 bid additional for community building. On proposal B the lowest bidder was H. M. Boyajohn, Columbus, Ohio, at $2,292,750, with $99,000 extra for community building. Cincinnati Metropolitan Housing Authority opened bids April 9. F. W. Garber, chief architects.

DEFENSE HOUSING UNITS, Newark, N. J.
H. R. H. Construction Co., New York, N. Y., was the lowest bidder for constructing defense housing units for Public Buildings Administration, Washington, D. C. $1,047,000. Hohauser, Voller & Wefferling, New York, are architects.

HOUSING, Newport, R. I.
M. Spinelli & Sons, Inc., Boston, Mass., has been awarded contract for constructing national defense housing project at Miantonomi Park by Newport Housing Authority. Estimated cost is $1,496,256 plus $38,256. Howe & Prout, Providence, R. I., are architects. Charles Maguire, Providence, R. I., is engineer.

ASSEMBLY and MACHINE SHOP, York, Pa.
James Stewart & Co., New York, N. Y., has been awarded contract for the construction of assembly and machine shop for York Safety Lock Co., York, Pa. Estimated cost is $1,500,000. Delano & Aldrich, New York, N. Y., are architects.

FACTORY, Coatsville, Pa.
Lukenweld, Inc., awarded contract constructing factory to Day & Zimmerman, Philadelphia, Pa., to cost $2,400,000 with equipment.

BRIDGE, Illinois-Iowa
Bethlehem Steel Co., Bethlehem, Pa., has been awarded contract by Dubuque Bridge Commission, for superstructure for steel bridge over Mississippi River, between Dubuque, Ia., and East Dubuque, Ill., $1,588,618. Ash-Howard-Needles & Tammen, Kansas City, Mo., are engineers.

NOTE—Additional bidding and contract news on over 800 projects large and small appear in the Construction News section beginning on page 14.

Kentucky reconditions its Capitol Dome

Recent inspection of the Capitol Dome at Frankfort, Ky., led to the discovery that the circular steel rings of the framework had deteriorated to such an extent as to make total collapse imminent.

According to Prof. D. V. Terrill, head of the civil engineering department of the University of Kentucky, a very light cinder concrete mix was used when the dome was constructed in 1906. The outer shell of the dome was covered with terra cotta. Over a period of time water had seeped through the terra cotta shell, and the concrete held the moisture, with resulting generation of sulphuric acid which corroded the steel.

The main load of the dome rested on twelve trusses that converged at the top from a 157-ft. circumference at the bottom. These trusses carried the load to a steel ring that encircled the top of a wide stone wall; this steel band at the bottom had crumbled entirely away, except at intervals where sections had been bolted together.

In the reconstruction work, the twelve trusses will be left as they are. The inner shell will be self-supporting, reinforced concrete applied with a pressure gun. This shell will rest on the masonry walls of the dome, clearing the trusses by a dead space of 6-in. The outer shell will be new terra cotta with waterproofed joints, a three-ply waterproof membrane will be laid between the concrete and the outer terra cotta shell.

Cost of reconstruction will be approximately $68,000. The modernization work is being carried out under the direction of Ralph C. Watt, chief engineer, division of engineering and construction, Kentucky Department of Finance, and the contractor is I. H. Pollack of Louisville, Ky.

Concrete cooling period ended at Grand Coulee

The work of cooling the 10¼ million cubic yards of concrete in the mammoth Grand Coulee Dam has been completed, according to Commissioner John C. Page, U. S. Bureau of Reclamation.

The job required two large pump barges, 2,000 mi. of pipe, 2 mi. of 3½-ft. inspection shafts, nearly 6 mi. of other galleries and shafts, and five years. The work was completed at an estimated cost of $1,400,000.

The cooling program reduced concrete temperatures from as high as 132 deg. to the uniform temperature of 45 deg. required. Steel tubing was embedded in the dam and cold river water was circulated through the tubes. Water was circulated at the rate of 4 gallons per minute through each of the thin-walled 1-inch pipes. One of the barges had five pumps with a capacity of 3,500 gallons per minute; the other, six pumps with a capacity of 5,500 gallons per minute. Through ordinary radiation the entire mass of concrete would not have cooled for a century.

Jury named to select most beautiful bridge

A jury of award composed of architects and engineers has been appointed by the American Institute of Steel Construction to select the most beautiful steel bridges built during the past calendar year.

Members of the jury are as follows: Prof. Francis P. Witmer, director of the department of civil engineering, University of Pennsylvania, Philadelphia, Pa.; Prof. Edward J. Squire, head of the department of civil engineering, Polytechnic Institute of Brooklyn, N. Y.; John A. Thompson, architect, of Thompson, Holmes & Converse, Inc., New York, N. Y.; W. Stanwood Phillips, architect of New York, N. Y.; and Waldo G. Bowman, editor of *Engineering News-Record*, of New York, N. Y.

Entries of bridges which were opened to traffic during 1940 will be received until May 1. In submitting entries for the competition the following information should accompany all photographs: name of bridge; location; total cost; engineer; fabricator; owner; date completed; date opened to traffic; span length; and roadway width. Further details may be secured from American Institute of Steel Construction, 101 Park Ave., New York, N. Y.

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Pennsylvania to start $3,000,000 bridge program

Pennsylvania's highway department has announced authorization of a new $3,000,000 bridge building program to start June 1, which will entail modernization of present structures on its rural highway system. The new program to be started dovetails with a similar program of $2,000,000 which is now nearing completion.

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Pay $240,000 insurance on Tacoma Narrows Bridge

The Washington State Toll Bridge Authority last week received $240,000 from two insurance companies in payment of use and occupancy policies issued on the Tacoma Narrows suspension bridge, which collapsed November 7, 1940. The Northwestern Fire & Marine Insurance Co. paid $140,000 and the Home Insurance Co., $100,000. These payments will take care of interest on the bridge bonds for three years.

Other insurance companies and the state are in dispute over the actual loss suffered when the bridge fell, and most optimistic estimates are that it will require months to reach a settlement.

OBITUARY

ISAIH NICHOL, 81, civil engineer, died recently at St. Clairsville, Ohio.

WILLIAM T. BENNISON, 50, engineer for Edward G. Budd Mfg. Co., died recently at Philadelphia, Pa.

THOMAS C. DAUGHERTY, 77, highway and street engineer, died Mar. 25, at Auburn, Neb.

THORWALD JOHNSON, 82, engineer for the Milwaukee Gas Light Co. for 48 years, died recently at Milwaukee, Wis.

WALTER B. ENGELHARDT, 58, surveyor, died recently at Milwaukee, Wis.

JULIAN CHATARD SMITH, engineer, 72, died April 3 at Flushing, L. I., N. Y.

COL. CHARLES A. FRENCH, 71, city engineer of Laconia, N. H., since 1906, died in that city on April 7.

JOHN A. ROONEY, 75, former building commissioner of the city of Boston, died at West Roxbury, Mass., on April 6.

RAY S. GATENS, 53, engineer, died April 10 at Fort Worth, Texas.

WILLIAM B. ANDERSON, 89, retired paving contractor, died April 5 at Seattle, Wash.

REUBEN E. NYSWANDER, age 63, dean of the science and engineering school at the University of Denver, died April 8, in Denver, Colo.

HERMAN F. WOHLSEN, 79, contractor and builder for the past 30 years in Lancaster, Pa., died April 1.

HENRY DON CARLOS, 65, for the past 29 years chief operating engineer with the Hydro Electric Power Commission of Ontario, died in Toronto Mar. 29.

JOHN CALDWELL, 65, construction superintendent for the Canadian General Electric Co. Ltd., died in Toronto Mar. 30.

JOHN TEN EYCK TUCKER, 25, junior engineer, War Department, located at Radford Ordnance Works, Radford, Va., was accidentally killed Mar. 23.

MORRIS F. MARKS, 47, consulting engineer, died Mar. 28 in St. Louis, Mo.

JAMES HAMILTON COLKET, engineer, died April 1 at Brooklyn, N. Y.

HERBERT M. CASE, 65, consulting engineer, died April 1 at Amityville, Long Island, N. Y.

THOMAS EDGAR STEWART, for 25 years with the N. C. State Highway Department, died April 1 at Winston-Salem, N. C.

E. B. PARSONS, consulting engineer, died recently at Watertown, Wisc. He was formerly city engineer at Watertown.

JOHN L. WALLACE, 62, road building contractor, died April 1 at Statesboro, Ga.

ALBERT C. SMITH, 71, former city engineer of Warren, Ohio, died recently at Warren.

VICTOR FLANAGAN, construction engineer, died April 2 at Mobile, Ala. Mr. Flanagan had been working on the Bankhead Tunnel.

C. C. STEEB, 51, construction engineer for Westinghouse Electric & Mfg. Co., died recently at Grand Coulee, Wash.

FREDERICK HUBBARD SIBLEY, head of the University of Nevada College of Engineering, died April 3 at Reno, Nev.

MAJ. JOHN P. DEAN, 44, U. S. Army Engineer Corps, died April 9 at Louisville, Ky.

ALFRED C. NELSON, 64, industrial designing engineer, died April 8, at Cleveland, Ohio. He had retired in 1937.

CONTRACTS AND CAPITAL

ENGINEERING CONSTRUCTION awards for the week, $66,308,000, are 24 percent higher than in the corresponding 1940 week, the 33rd consecutive week in which current values have exceeded their respective volumes of a year ago. The total, however, is 52 percent below last week.

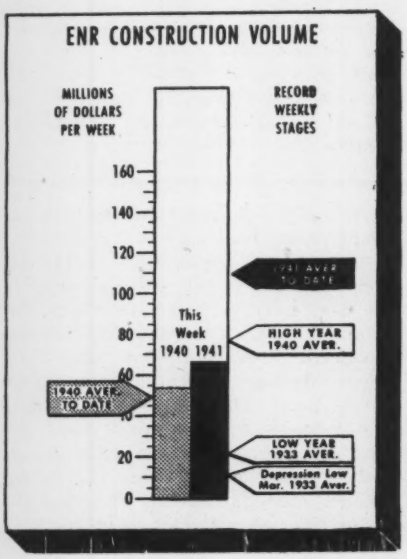
Private construction is 9 percent lower than in the 1940 week, and 57 percent under last week. Public awards gain 42 percent over a year ago, but are 50 percent lower than a week ago.

The current week's total brings 1941 volume to $1,735,721,000, an increase of 116 percent over the 16-week period in 1940. Private construction is 67½ percent higher than last year, and public is 142 percent higher as a result of the 878 percent gain in federal work.

In the classified construction groups, gains over last week are in waterworks, bridges, and streets and roads. Comparisons with a year ago reveal increases in sewerage, bridges, commercial building and large-scale private housing, public buildings, and unclassified construction.

New capital for construction purposes for the week totals $4,697,000, a decrease of 67 percent from the total for the 1940 week. The current week's new financing is made up of $4,640,000 in state and municipal bond sales, and $57,000 in RFC loans for public improvements.

New construction financing for the year to date, $2,285,438,000, tops the volume for the opening 16-week period in 1940 by 558 percent.



CONTRACTS

(Thousands of dollars)

	Week Ending Apr. 18 1940	Apr. 10 1941	Apr. 17 1941
Federal	$4,483	$71,237	$26,427
State & Municipal	29,983	27,588	22,696
Total public	$34,466	$98,825	$49,123
Total private	18,870	40,351	17,185
TOTALS	$53,336	$139,176	$66,308
Cumulative 1941	(16 weeks)		$1,735,421
1940	(16 weeks)		$802,804

Note: Minimum size projects included are: Waterworks and waterways projects, $15,000; other public works, $25,000; industrial buildings, $40,000; other buildings, $150,000.

NEW PRODUCTIVE CAPITAL

	Cumulative 1940 16 weeks	1941 16 weeks
NON-FEDERAL	$347,633	$318,553
Corp. Securities	54,372	101,243
State & Mun.	218,969	177,689
U.S.H.A. loans	73,551	13,521
R.F.C. loans	741	26,100
FEDERAL		$1,966,885
TOTAL CAPITAL	$347,633	$2,285,438

FHA MORTGAGES

	Week Ending Apr. 13 1940	Apr. 5 1941	Apr. 12 1941
Selected for appraisal	$29,978	$35,045	$34,000*
Cumulative 1941	(15 weeks)		$381,997*
1940	(15 weeks)		$327,547

* Subject to revision.

ENR INDEX NUMBERS

Index Base=100		1913	1926
Construction Cost	Apr. '41	252.40	121.33
Building Cost	Apr. '41	208.60	112.76
Volume	Mar. '41	386	169

CONTRACT UNIT PRICES

What contractors are bidding on different kinds of construction work

SUBWAY AND APPROACHES WISCONSIN

OWNER: Wisconsin State Highway Comn., Madison.

PROJECT: Grading, structures and surfacing, and railroad structures in connection with Wyocena Subway and approaches in Columbia County, Wis., at east end of village of Wyocena. Subway structure of concrete and steel; approach highway has graded aggregate surface course. Length of project 1.36 miles.

CONDITIONS: Contractor to furnish all materials and complete work in 225 working days. Rail and highway transportation facilities available. Wage rates are: skilled labor, 80c. to $1.50 per hr.; semi-skilled, 55c. to $1.35; common, 55 to 65c.

LIST OF BIDDERS: (December 17, 1940).

1. Roger Van Vechten, Wauwatosa, Wis. (contract) .... $ 82,063
2. Mid-State Constr. Co., Madison, Wis. 83,855
3. Bentley Constr. Co., Milwaukee, Wis. 85,677
4. Kramp Constr. Co., Milwaukee, Wis. 87,184
5. Ferd J. Robers Constr. Co., Burlington, Wis. 88,345
6. Allied Contracting Co., EauClaire, Wis. 89,361
7. A. R. Coffeen, Decorah, Iowa 129,500

Item	Quan.	Unit Prices (1)	(2)	(3)
1. Clearing	1.5 ac.	$65.00	$45.00	$70.00
2. Clearing	865 in. dia.	.20	.13	.15
3. Grubbing	1.5 ac.	70.00	45.00	70.00
4. Grubbing	1,047 in. dia.	.20	.15	.20
5. Remove conc. sidewalk	307 s. y.	.05	.15	.08
6. Common excav	58,984 c. y.	.20	.19	.16
7. Rock excav	2,302 c. y.	.40	.40	.65
8. Excav. for struct. bridge	1,940 c. y.	1.00	3.00	1.50
9. Sand gravel fill	1,000 c. y.	.40	.50	1.00
10. Finishing roadway	85 sta.	10.00	8.00	8.50
11. Salvage surf. course	1,400 c. y.	.40	.30	.30
12. Conc. masonry, bridge	588.6 c. y.	20.00	20.00	24.00
13. Reinf. steel, bridge	45,394 lb.	.036	.04	.05
14. Structural steel	66,750 lb.	.0622	.065	.06
15. Sheet copper	79 lb.	.75	.60	.50
16. Zinc plates	95 lb.	.40	.25	.30
17. 30-in. rein. conc. culv. pipe	14 l. f.	4.20	4.00	4.00
18. Corr. galv. sh. met. culv. pipe, 12-in.	88 l. f.	1.00	1.00	.90
19. Corr. galv. sh. met. culv. pipe, 18-in.	204 l. f.	1.40	1.40	1.35
20. Corr. galv. sh. met. culv. pipe, 24-in.	166 l. f.	2.30	2.00	2.10
21. Corr. galv. sh. met. culv. pipe, 30-in.	276 l. f.	3.00	2.60	2.50
22. Deliver treat. timber piles	1,320 l. f.	.90	1.00	1.00
23. Drive treat. timber piles	1,000 l. f.	.30	.40	.20
24. Untr. timber test piles	L.S.	200.00	300.00	500.00
25. Treat. lumber and timber	4.91 M bm.	135.00	150.00	200.00
26. Floor drains	6 ea.	12.00	15.00	20.00
27. Riprap	78 c. y.	3.00	3.00	5.00
28. Pipe underdrain, perf. corr. galv. sh. met., 8-in.	358 l. f.	1.00	1.10	2.00
29. Rein. conc. culv. pipe, st. sewer, 12-in.	358 l. f.	1.65	1.90	3.00
30. As above, 18-in.	799 l. f.	2.80	2.60	4.00
31. As above, 24-in.	653 l. f.	3.20	3.25	5.00
32. Catch basins, type A	4 ea.	228.00	150.00	300.00
33. Catch basins, type B	3 ea.	50.00	60.00	100.00
34. Inlets, type A	12 ea.	35.00	40.00	30.00
35. Inlets, type B	2 ea.	35.00	30.00	30.00
36. Std. manhole covers	3 ea.	20.00	30.00	20.00
37. 30-in. conc. curb and gutter	3,677 l. f.	1.60	.92	1.00
38. 5-in. concrete sidewalk	1,766 s. f.	.24	.24	.20
39. Timber guard rail fence	64 l. f.	1.50	.70	1.00
40. Marker posts	19 ea.	2.00	1.50	1.50
41. Seeding	65,200 s. y.	.007	.006	.008
42. Sodding	1,180 s. y.	.35	.40	.30
43. Blading	29 sta.	8.00	3.00	5.00
44. Intercepting embankment	120 l. f.	.20	.15	.20
45. Graded aggregate surf. (base) crse.	5,110 c. y.	.80	.80	.80
46. Mat'l. in stockpiles for graded aggr. surf. (base) crse.	150 c. y.	.80	.80	.80
47. Cal. chloride or calc.-magnesium chloride surf. treatment	18.3 ton	30.50	28.00	30.00
48. Bitum. matl. for prime coat	6,095 gal.	.17	.08	.08
49. Aggr. for graded aggr. bit. surf. crse., dense graded type	1,750 c. y.	.80	.80	.80
50. Bit. mat'l.; surf. crse. and tackcoat	40,500 gal.	.17	.08	.08
51. Wearing surf., class C	23,770 s. y.	.085	.15	.16
52. Bit. mat'l. for seal coat	3,570 gal.	.17	.08	.08
53. Aggr. for seal coat cover	165 c. y.	2.70	4.00	4.00
54. Temp. pedestrian crossing	L.S.	300.00	800.00	400.00
55. Common excav., falsework	650 c. y.	1.25	1.50	1.50
56. Struct. steel, delivered	149,175 lb.	.051	.058	.05
57. Copper bearing steel, del.	28,615 lb.	.052	.07	.05
58. Sheet lead, delivered	467 lb.	.25	.18	.20
59. Pipe railing (with pipe posts) del.	149.5 l.f.	7.00	6.60	6.00
60. Floor drains, del.	3 ea.	175.00	164.00	150.00
61. Membrane waterproofing, substr.	520 s. f.	.22	.20	.20
62. Damp-proofing substr.	2,850 s. f.	.10	.06	.05
63. Crushed stone ballast	64 c. y.	3.00	2.20	3.00
64. Transverse pavemt. drain	L.S.	725.00	700.00	1,200.00
65. Fertilizer	120 cwt.	3.50	2.50	2.60

HIGHWAY, MARYLAND

OWNER: Maryland State Roads Comn., Baltimore; D. P. Campbell, district engineer, Towson, Md.

PROJECT: Construction of 1.784 miles of dual-lane and semi-cloverleaf overpass section of Philadelphia Road relocation from 0.2 miles east of B. & O. RR. overpass to Middle River Road, in Baltimore County, Md. Highway is concrete.

CONDITIONS: Contractor to furnish all materials and complete work in 130 days. Rail and highway transportation facilities available. Minimum wages specified are: skilled labor 56c. per hr.; semi-skilled, 45c.; and common, 35c. per hr.

BIDS: Two bids were received February 18, 1941, the contract low of $287,486 and $400,441.

LIST OF BIDDERS:

1. C. J. Langenfelder & Son, Rosedale, Md. (contract) $287,486
2. McHugh Bros., Springfield, Ohio 400,441

Item	Quan.	Unit Prices (1)	(2)
1. Clearing and grubbing	L.S.	$1,500.00	$4,000.00
2. Class I excavation	86,300 c. y.	.22	.39
3. Class II excavation	6,500 c. y.	.75	1.25
4. Class III excavation	400 c. y.	2.50	3.00
5. Class V excavation	1,550 c. y.	.60	1.00
6. Borrow excavation	68,100 c. y.	.28	.75
7. Tamped fill	4,050 c. y.	.60	.60
8. Earth shoulders	900 s. y.	.10	.20
9. Topsoil, furnished, etc	42,750 s. y.	.20	.20
10. Trim existing ditches	500 l. f.	.15	.15
11. Remove exist. masonry	30 c. y.	6.00	5.00
12. Calcium chloride	25 ton	30.00	30.00
13. Sub-base, type 2	2,100 c. y.	1.15	2.00
14. Screenings	25 ton	1.25	2.50
15. Grav. surf. course, (X sect.)	1,350 s. y.	.25	.40
16. Grav. surf. course, (shoulder)	21,725 s. y.	.25	.30
17. 9-in. 7-in. rein. conc. pavmt. (A reg.)	47,000 s. y.	2.02	2.50
18. 9-in. 7-in. rein. conc. pavmt. (X es)	3,850 s. y.	2.32	2.80
19. 9-in. 9-in. pl. cem. conc. pav. (A reg.)	875 s. y.	2.37	2.30
20. 9-9-in. pl. cem. conc. pavmt (X es)	2,150 s. y.	2.55	2.60
21. Aggreg. for pipe underdrain	700 c. y.	2.25	3.00
22. 6-in. asph. coat. corr. met. pipe underdr.	3,350 l. f.	.80	.100
23. 8-in. asph. coat. corr. met. pipe underdr.	500 l. f.	.90	1.10
24. 6-in. asph. coat. c. n. pipe, under. outl.	600 l. f.	.80	1.00
25. 8-in. asph. coat. c. m. pipe, under. outl.	100 l. f.	.90	1.10
26. 15-in. asph. coat. corr. met. pipe	2,814 l. f.	2.00	2.10
27. 18-in. asph. coat. corr. met. pipe	864 l. f.	2.25	2.30
28. 24-in. asph. coat. corr. met. pipe	160 l. f.	3.20	4.15
29. 36-in. asph. coat. corr. met. pipe	172 l. f.	5.50	6.75
30. 48-in. asph. coat. corr. met. pipe	290 l. f.	7.50	10.00
31. 15-in. rein. conc. pipe	42 l. f.	1.50	1.40
32. 24-in. rein. conc. pipe	87 l. f.	2.50	2.50
33. 24-in. ½-sect. rein. conc. pipe	40 l. f.	2.10	2.50
34. 12-in. cast iron pipe	410 l. f.	3.00	3.00
35. 15-in. 30-deg. asph. coat. corr. met. pipe bend	2 ea.	8.00	15.00
36. 8-in. 135-deg. asph. coat. c. m. pipe elbow	1 ea.	4.50	10.00
37. 6-in., as above	5 ea.	4.25	10.00
38. 6x6-in. 135-deg. a. c. c. m. pipe wye sect.	1 ea.	5.60	10.00
39. 15x24-in. a. c. c. m. pipe, tee sect.	3 ea.	16.35	30.00
40. 15x36-in., as above	3 ea.	26.00	40.00
41. 15x48-in., as above	1 ea.	34.00	70.00
42. 6x8-in. 135-deg. a. c. c. m. pipe, wye sect.	1 ea.	6.50	15.00
43. Untr. Class B timber piles	2,920 l. f.	.65	1.00
44. Cast-in-place test piles	50 l. f.	3.60	4.00
45. Cast-in-place conc. piles	1,075 l. f.	3.40	4.00
46. Cl. A conc. pipe end (A reg.)	75 c. y.	22.00	25.00
47. Class A conc. (A reg.)	1,475 c. y.	19.00	24.00
48. Class A conc. balustrade (A reg.)	29 c. y.	50.00	60.00
49. Steel reinforcing bars	163,500 lb.	.04	.05
50. Fabric, struct. steel	344,000 lb.	.06	.075
51. Bitum. protective coat; struct.	L.S.	1,635.00	720.00
52. Furn. and install conduits	L.S.	425.00	200.00
53. Drilled holes	10 ft.	1.00	2.00
54. Expan. matl. in bridge	L.S.	725.00	1,500.00
55. Scuppers, downspouts, underdrain	L.S.	1,000.00	1,500.00
56. Piers, open door	L.S.	1,200.00	1,200.00
57. 8-in. port. cem. conc. gutter	350 s. y.	2.00	2.00
58. 8-in. port. cem. conc. gutter	50 s. y.	3.00	3.00
59. Comb. cem. conc. curb and 1-ft. gutter	10,300 l. f.	.85	1.50
60. As above, 2-ft. gutter	2,700 l. f.	1.05	2.00
61. 8x20-in. port. cem. conc. curb	1,900 l. f.	1.00	1.20
62. Grouted riprap	50 s. y.	4.00	4.00
63. 9-in. patch conc. pavement	100 s. y.	4.00	5.00
64. 4-cable guard rail	1,728 l. f.	.60	.65
65. 2-cable guard rail	200 l. f.	.45	.50
66. End anchorages	16 ea.	16.00	15.00
67. Intermediate anchorages	8 ea.	32.00	15.00
68. Maintain traffic	L.S.	200.00	2,000.00
69. Manholes	3 ea.	125.00	150.00
70. Cedar posts	50 ea.	1.75	2.00
71. Type E inlet	1 ea.	95.00	100.00
72. Type H comb. inlet	38 ea.	125.00	150.00

CONSTRUCTION REPORTS

Compiled by Business News Department—Engineering News-Record, 330 W. 42nd St., New York
ELSIE EAVES, Manager *SCOTT McLEOD, Statistician*
(Daily service also available—Write for details)

Location of ENR Correspondents

Symbols and Abbreviations Include:

†	Federal Government
★	Project of $500,000 or over
ENR	Engineering News-Record
CD	Engineering News-Record Construction Daily

Projects—By Size

Construction projects here reported cover the United States and Canada, are of these minimum sizes or larger; water supply, earthwork, waterworks, $15,000; other public works, $25,000; industrial buildings, $40,000; other buildings, $150,000.

Classes of Construction

(Named in order of Listing)

Water Supply	Unclassified
Sewers, Waste Disposal	Latin America
Bridges, Grade Cross'gs	Public Buildings
Streets & Roads	Commercial Buildings
Earthwork, Waterways	Industrial Buildings

Stages Reported

PROPOSED: (except Streets & Roads):

BIDS ASKED (new announcements only. For full calendar, see also preceding issues of ENR);

LOW BIDDERS: All low bidder news will be the final reports published on the projects involved except where award is not made to the low bidder. In this case, a supplementary contract award report will be published.

CONTRACTS AWARDED: Except awards to low bidders previously reported in low bidder stage.

Dates shown are of issue in which last previous report was published.

WATER SUPPLY

PROPOSED WORK

Ill., Rockford—H. S. Merz, city water supt., exten. water service to Grant Park and Kinsey addn. in south Rockford, Loves Park. $200,000-$400,000.

Ia., Swea City—Exten. water sys., mains, filter. $20,000.

Mass., Waverly — Massachusetts General Hospital, Fruit St., Boston, indefinitely postponed construction water purification plant. Weston & Sampson, 14 Beacon St., Boston, engrs. CD 4/4—ENR 4/10, under LB.

Neb., Seward—C. McGrew, city clk., approved $20,000 bonds, water tower. CD 3/19—ENR 3/27.

Neb., Verdon — Approved $13,000 bonds, water sys. $15,000. CD 2/18—ENR 2/20.

N. J., Lodi—Watermains, Woodmere Development. Over $15,000. A. Noack, Boro Hall, engr.

N. J., Rockaway—Bids soon, drilling, new water well. $15,000. A. J. Proskie, Town Hall, engr.

N. Y., Sidney—WW sys. and exten. Over $15,000. Whitman, Requardt & Smith, 11 N. Pearl St., Albany, engrs. CD 11/12—ENR 11/14.

N. C., New Bern—Bond election May 6, modernizing, imprv. water and light plant. $375,000. R. Henderson, mayor.

O., Steubenville—Surveys WW imprvs. R. F. MacDowell, Chester-Twelfth Bldg., Cleveland, engr.

R. I., Newport—H. E. Watson, supt. Bd. Water Comrs., City Hall, WW sys. exten. Over $15,000.

Tex., Corsicana—Air Activities of Texas, c/o B. L. Wolley & Assoc., Magnolia Bldg., Dallas, 6½ mi. 6 in. welded joint watermain from Lake Halbert to Training School. $22,500.

Wash., Bremerton — Bremerton Housing Auth., 800,000 gal. water reservoir, pump. equip.

Wash., Pomeroy—V. H. Robinson, mayor, WW imprvs. $30,112. WPA funds sought.

Wash., Seattle—H. Russell, 9925 15 Ave. N.W., water sys. at Eighth Ave. N.W. and W. 187 St. Morford & Mowry, Lyon Bldg., engrs.

Wis., Neillsville—W. Hemp, city clk., water supply sys., Mead, Ward & Hunt, Madison, engrs.

Wis., Oxford—B. U. Mitchell, village clk., WW supply sys. General Eng. Co., Portage, engrs.

Ont., Cornwall—F. B. Brownridge, town clk., filtration plant. $30,000. W. H. Magwood, Town Hall, engr. CD 4/2.

Ont., Jordan—Jordan Wire Co., Ltd., Jordan, water pipe line from St. Catherines, Ont. $60,000.

Ont., Kirkland Lake—Upper Canada Mines, Ltd., 1101 Federal Bldg., Toronto, 3 mi. 8 in. water pipeline from Crystal Lake. $25,000. H. Sutcliffe, c/o owners, engr.

Sask., Saskatoon—Water supply exten. to Lutheran College. $15,000. G. D. Archibald, City Hall, engr.

BIDS ASKED

Bids Asked April 21

Conn., Hartford — Bd. Contr. & Supply Metropolitan Dist., Municipal Bldg., 550 Main St., Contr. 64, Pitkin St., East Hartford, pipeline. R. Dillon, clk.

Bids Asked April 22

Ill., Springfield—City Water, Light & Power Dpt., City Hall, double length present filter room, install rapid sand filters, Lakeside filtration plant. $60,000. Burns & McDonnell, 107 W. Linwood Blvd., Kansas City, Mo engrs.

Bids Asked April 24

†Va., Big Bethel—Con. Q. M. Fort Monroe, one 300 kw. gasoline engine driven generator set, water filtration plant, etc. adv. ENR 4/17.

Wash., Spokane—C. T. Bogart, city purch. agt. WW imprvs. Over $15,000. A. Lindsay, City Hall, water supt.

Bids Asked about May 1

Ill., Woodstock—J. R. Pierce, city clk., elevated tank and pipe lines. $50,000. Alvord, Burdick & Howson, 20 N. Wacker Dr., Chicago, engr. CD 3/25—ENR 3/27.

Neb., Seward—C. McGrew, city clk., 250,000 gal. elevated steel tank. $25,000. Paulette & Wilson, 1006 Kansas Ave., Topeka, and Public Utility Bldg., Salina, Kan., engrs.

Bids Asked May 2

S. C., Orangeburg—River intake, pump. sta., water filtration plant imprvs. J. F. Pearson, supt. water and light plant. Wiedeman & Singleton, Candler Bldg., Atlanta, Ga., engrs.

Bids Asked May 7

N. C., Concord—W. A. Wilkinson, mayor, and Bd. Light & Water Comrs., 1 m. g. steel tank, 41 ft. tower. G. C. White Co., Durham, consult. engrs., adv. ENR 4/17. CD 3/20—ENR 3/27.

Bids Asked

Ont., Port Lambton—Sombra Twp., R. E. Bradshaw, Wilkesport, WW sys., pump. station, intake pipe, watermain laying, supply pipe, valves, hydrants. $50,000. Wynne Roberts Son & MacLean, 67 Yonge St., Toronto, engrs. CD 9/19—ENR 9/26.

LOW BIDDERS

Calif., South Gate—City, Apr. 7, c.i. watermain, Southern Ave., from A. L. Gabrielson, 3657 Van Buren St., Arlington. **$65,453.** H. C. Peiffer, City Hall, clk.

N. Y., New York—Bd. Water Supply, G. J. Gillespie, pres., 346 Bway., Apr. 8, Contr. 353, furnishing, testing, del. alloy c.i. hydraulically-operated gate valves, etc., for Delaware Aqueduct, from Stacey-Schmidt Mfg. Co., York, Pa., **$219,128.** CD 3/24—ENR 3/27.

CONTRACTS AWARDED

Ill., Peoria Heights—Water sys. exten., to Layne Western Co., 53 W. Jackson St., Chicago, **$18,500.**

Ind., Valparaiso—WW dist. sys. addn., **WPA. $45,030.**

Kan., Whitewater—WW distr. sys., valves, fire hydrants, **WPA. $153,500.** Paulette & Wilson, 1006 Kansas Ave., Topeka, and Public Utility Bldg., Salina, engrs.

Minn., Baudette—R. J. Flynn, village clk., exten. water and sewerage sys., **WPA. $57,566.** CD 4/1—ENR 4/3.

Minn., International Falls—F. E. Patterson, city clk., water supply sys. in South International Falls, **WPA. $18,094.**

N. J., Orange—Sheeting, 20 in. watermain, **WPA. $56,992.** K. Crane, Town Hall, town and WPA engr.

N. Y., Saratoga Springs—C.i. mains, 3, Rensselaer, State and Henry Sts., Maple Ave., **WPA.** Over **$50,000.** C. W. Post, Old P. O. Bldg., Albany, ch. engr. WPA projects.

N. Y., York—York Water Dist., WW sys., to W. G. Fritz Co., Inc., 69 Main St., West Orange, N. J. Est. **$175,000.** Bids 3/27. CD 3/18—ENR 3/20.

O., Sandusky—20 in. force watermain, to Gallagher & O'Horo Co., 1818 Wilson Ave., Youngstown. **$56,000.** Est. $50,000. Awarded 4/4.

Pa., Erie—Bureau Water, J. S. Dunwoody, supt., WW exten. to Peninsula State Park, west of here, own forces. Over **$25,000.** A. N. Aitkin, city engr. CD 3/26—ENR 4/3.

Pa., Reading—Exten. c.i. watermains, own forces. Est. **$15,000-$18,000.** R. S. Chubb, city engr. CD 4/1—ENR 4/3.

Tenn., Tullahoma—D. R. Campbell, mayor, extens., imprvs. WW sys., own forces. **$25,000.** CD 2/26—ENR 3/6.

Tex., Albany—D. G. Curb, mayor, water supply main, ditching, laying, backfilling **WPA. $99,371.** Freese & Nichols, Capps Bldg., Fort Worth, engrs.

Tex., Lamesa—Elevated tank and tower, to Pittsburg Des Moines Steel Co., Praetorian Bldg., Dallas, **$16,100.** Bids 3/31. CD 3/20.

Tex., Throckmorton—Sloan Stribling, mayor, clear water supply reservoir, **WPA. $70,366.** Freese & Nichols, Capps Bldg., Fort Worth, engrs.

Utah, Minersville—Imprv., exten. water sys., **WPA. $34,351.** R. G. Harding, Utah Savings & Trust Bldg., Salt Lake City, engr.

N. S., Bedford—Dpt. National Defense, Ottawa, Ont., water and fire sys., Joint Service Magazine, to E. G. M. Cape & Son, Ltd., 620 Cathcart St., Montreal, Que. **$34,000.**

SEWERS, WASTE DISPOSAL

PROPOSED WORK

Calif., Susanville—Susanville Sanitary Dist., voted $30,000 bonds completing sewer drainage system. CD 2/6—ENR 2/13.

Idaho, Alameda—Sanitary sewerage sys. $167,000. Seeking WPA funds.

Ill., Rushville — Sewers, treatment plant. $250,000. Engineering Service Corp., City Club Bldg., Decatur, engr. CD 3/13—ENR 3/20.

Mo., Gardenville (St. Louis P. O.)—Gardenville Sanitary & Roof Water Sewer Dist. of St. Louis County, c/o R. Horton, engr., 745 Atalanta Ave., Webster Groves, defeated $35,000 bonds, sanitary and roof water sewerage sys. CD 3/31—ENR 4/3.

Mo., Vinita Park (St. Louis P. O.)—Vinita Park Sewer Dist. of St. Louis Co., c/o Sverdrup, Parcel & Wood Smith, engrs., Railway Exch. Bldg., St. Louis, defeated $43,000 bonds, sanitary sewerage sys. CD 3/31—ENR 4/3.